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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/669,443	09/26/2000	Michael John Cullen	200-0767	2938

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EXAMINER

PANG, ROGER L

ART UNIT PAPER NUMBER

3681

DATE MAILED: 09/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/669,443

Applicant(s)

CULLEN ET AL.0101

Examiner

Roger L Pang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-19 is/are pending in the application.
- 4a) Of the above claim(s) 5 and 13-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-9, 11, 12, 18 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

The following action is in response to the amendment filed for application 09/669,443 on June 24, 2003.

#### *Election/Restrictions*

Claims 5, and 13-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 7.

#### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 7, 12, and 18-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Togai '558. With regard to claim 1, Togai teaches a method for controlling a powertrain coupled to a vehicle, the powertrain having an internal combustion engine 4 coupled to a transmission 20, the method comprising: determining a desired vehicle trajectory V in response to a release of an accelerator pedal by said driver, and during said release; adjusting an engine operating parameter 6 to maintain positive powertrain output when an actual vehicle trajectory Va is below said desired vehicle trajectory; and adjusting said engine operating parameter to transition from positive powertrain output to negative powertrain output based on a determination of whether said actual vehicle trajectory is above said desired vehicle trajectory (Fig. 4). With regard to claim 2, Togai teaches the method further comprising limiting powertrain output rate of change

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during said transition.107. With regard to claim 3, Togai teaches the method wherein said step of adjusting said engine operating parameter to transition from positive powertrain output to negative powertrain output further comprises adjusting said engine operating parameter to transition from positive powertrain output to negative powertrain output when said actual vehicle trajectory  $V_a$  is above said desired vehicle trajectory  $V$  by a predetermined amount (i.e. .01 kph). With regard to claim 4, Togai teaches the method wherein said vehicle trajectory is a vehicle speed trajectory  $V$ . With regard to claim 7, Togai teaches the method wherein said desired vehicle trajectory is based on vehicle and engine operating conditions (i.e.  $N_e$ ,  $V$ , etc.). With regard to claim 12, Togai teaches the method further comprising the step of controlling powertrain output to a required negative powertrain output to maintain said vehicle trajectory at or below said desired vehicle trajectory (Fig. 4). With regard to claim 18, Togai teaches a method for controlling a powertrain coupled to a vehicle, the powertrain having an internal combustion engine 4 coupled to a transmission 20, the method comprising: determining a desired vehicle speed trajectory  $V$  in response to a release of an accelerator pedal by said driver, and during said release; adjusting an engine torque to maintain positive powertrain output when an actual vehicle speed trajectory  $V_a$  is below said desired vehicle speed trajectory; and adjusting said engine torque to transition from positive powertrain output to negative powertrain output when said actual vehicle speed trajectory is above said desired vehicle speed trajectory (Fig. 4). With regard to claim 19, Togai teaches the method wherein said desired vehicle speed trajectory is based on a vehicle operating parameter (i.e.  $N_e$ , etc.).

Claims 1-2, and 8-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Imai '045. With regard to claim 1, Imai teaches a method for controlling a powertrain coupled to a

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vehicle, the powertrain having an internal combustion engine 1 coupled to a transmission 3, the method comprising: determining a desired vehicle trajectory  $x$  in response to a release of an accelerator pedal by said driver, and during said release: adjusting an engine operating parameter  $gt$  to maintain positive powertrain output when an actual vehicle trajectory  $x$  is below said desired vehicle trajectory; and adjusting said engine operating parameter to transition from positive powertrain output to negative powertrain output based on a determination of whether when said actual vehicle trajectory is above said desired vehicle trajectory 156. With regard to claim 2, Imai teaches the method further comprising limiting powertrain output rate of change during said transition  $gt$ . With regard to claim 8, Imai teaches the method wherein said desired vehicle trajectory is based on a position of a transmission lever 108. With regard to claim 9, Imai teaches the method wherein the lever selects between at least the following gears: reverse R, neutral N, a first forward 1, and a second forward 2 (Fig. 17).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Togai as applied to claim 1 above, and further in view of Fukasawa. With regard to claim 6, Togai teaches the method wherein the engine is coupled to the transmission via a torque converter 9, but lacks the particular teaching wherein positive powertrain output is maintained by torque

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converter control. Fukasawa teaches a powertrain wherein an engine 2 is coupled to a transmission via a torque converter (Col. 1, line 13), wherein positive powertrain output is maintained by maintaining torque converter input speed greater than torque converter output speed S140. It would have been obvious to one of ordinary skill at the time of the invention to modify Togai to employ the torque converter control in view of Fukasawa in order to prevent unexpected engine stall (Col. 1, lines 65-66). With regard to claim 11, Togai teaches the method wherein the engine is coupled to the transmission via a torque converter 9, but lacks the particular teaching wherein said torque converter is unlocked while maintaining positive powertrain output and then locked after transitioning from positive to negative powertrain output. Fukasawa teaches a powertrain wherein an engine 2 is coupled to a transmission via a torque converter (Col. 1, line 13), wherein said torque converter is unlocked while maintaining positive powertrain output and then locked after transitioning from positive to negative powertrain output (Fig. 3). It would have been obvious to one of ordinary skill at the time of the invention to modify Togai to employ the torque converter control in view of Fukasawa in order to prevent unexpected engine stall (Col. 1, lines 65-66).

***Response to Arguments***

With regard to the Imai reference, Imai was not used to reject original claim 10 because it was unnecessary. It can be shown, however, that Imai does adjust the engine output to maintain a desired vehicle trajectory in response to the release of an accelerator pedal. Although an “actuator release” is not explicitly mention, the engine is controlled to maintain a desired vehicle trajectory based on throttle actuation. Therefor, when a release occurs, the throttle angle will change, and during this change, the engine will be controlled to maintain said desired trajectory. Applicant’s arguments have been considered, but are not persuasive.

With regard to the Togai reference, on Col. 13, lines 46-54, it is stated that if the accelerator pedal is released, during the release, a vehicle trajectory will be resumed. The trajectory will be determined to be the original trajectory set at a previous time, and this determination occurs during the release of said accelerator pedal. Applicant’s arguments have been considered, but are not persuasive.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

#### FACSIMILE TRANSMISSION

Submission of your response by facsimile transmission is encouraged. Group 3600's facsimile number is (703) 305-3597. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see MPEP 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check should not be submitting by facsimile transmission separately from the check.



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Responses submitted by facsimile transmission should include a Certificate of Transmission (MPEP 512). The following is an example of the format the certification might take:

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(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and MPEP 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roger L Pang whose telephone number is 703-305-0445. The examiner can normally be reached on 5:30am to 4:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 703-308-0830. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2168.

A handwritten signature in black ink, appearing to read 'R. Pang', with a horizontal line extending to the right.

Roger L Pang  
Patent Examiner  
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September 12, 2003